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ABSTRACT

This paper describes the early phases of an examination of the role played by Internet-based teacher professional development for K-12 teachers in the implementation of an innovation. The cases developed describe the effect of this professional development intervention on the teacher implementation of the knowledge construction tools in the "StageStruck" CD-ROM. The current phase of the research has established the most appropriate Web site design for online professional development to be the online community of practice. The hallmarks of an effective online community were determined from literature and available cases. These hallmarks have guided the Web site network's technical development and continue to inform the study as it seeks to gauge the critical factors in building and sustaining the social interaction for the online community. A Web site portal or hub (http://www.stagestruck.uow.edu.au) has been designed specifically to build and support a community of practice. The Web site development continues to be an iterative process informed by review of the literature, practice in the field, and the contributions and ongoing evaluation of the community members. (Contains 25 references.) (Author/AEF)

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Building On-Line Community for Professional Development

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Abstract

This paper describes the early phases of an examination of the role played by Internet-based teacher professional development for K-12 teachers in the implementation of an innovation. The cases developed describe the effect of this professional development intervention on the teacher implementation of the knowledge construction tools in the *StageStruck* CD-ROM .

The current phase of the research has established the most appropriate web site design for on-line professional development to be the online community of practice. The hallmarks of an effective on-line community were determined from literature and available cases. These hallmarks have guided the web site network's technical development and continue to inform the study as it seeks to gauge the critical factors in building and sustaining the social interaction for on-line community.

A web site portal or hub (http://www.stagestruck.uow.edu.au) has been designed specifically to build and support a community of practice. The web site development continues to be an iterative process informed by review of the literature, practice in the field and the contributions and ongoing evaluation of the community members.

Background To The Study

StageStruck, produced by Wollongong University and National Institute for Dramatic Art (NIDA), was one of ten CD-ROM titles produced in the *Australia on CD*, a Creative Nation[1] federally funded Cultural program. Despite widespread distribution of *StageStruck* , across Australia (free to every school) and International acclaim for the teaching tool, preliminary discussions with educators indicated that most were unaware of *StageStruck's* existence let alone its educational benefit. This suspicion was borne out when in a state-wide promotion many teachers replied to find out where to obtain copies of something already distributed to their school. It became evident that a mechanism was required to both promote the program and support performing arts K-12 teachers in the in their professional development. In broader educational contexts, reviews of traditional professional development (as part of widespread educational reform) have proffered Internet technologies as possible cost-effective and efficient training and development delivery mechanisms. This research sought to explore the issues lessons to be learnt in such Internet-based solutions.

[1]Creative Nation Australia's Cultural Network http://www.acn.net.au/articles/1998/05/ozcd.htm

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Questions Addressed In This First Phase Of Research

1. Which professional development experiences/resources will assist teachers in their implementation of technological innovation (*StageStruck)*?
2. What Internet technologies and architectures best support those teacher needs
3. What are the hallmarks of an effective on-line community?
4. How can Internet activities/resources be designed and developed to attract and sustain a community of users? What cases exist to guide this development?

The Related Bodies Of Theory And Literature

This research draws from three critical areas of literature; innovation and change , professional development and on-line communities. There is a thread emerging from between these seemingly disparate bodies of research. For *innovation* it is critical that change begins with teachers and their professional development. In *professional development* there are well researched hallmarks of best practice which describe opportunities for teachers teaching teachers. And in *on-line learning* heterogeneous communities have been shown through participant activity and leadership to support teacher directed just-in-time learning. The connecting thread is the teacher centred community of practice as the hub of the professional development experience.

> *A central tenet of professional development and school reform is the creation of an enabling participant-driven environment for students and teachers alike. Web technology shares and promotes this same imperative. The key dynamics of the World Wide Web and school reform are exactly the same.* (Tenenbaum 1997 p485)

Traditional professional development has been criticised as being fragmented, unrelated to classroom practice and lacking in the focus and the follow-up that teachers require. The 1996 National Commission on Teaching and America's Future report *What Matters: Teaching for America's Future* (NCTAF, 1996) raised as one of it's five major recommendations to "Reinvent teacher preparation and professional development" to ensure "continuous high quality learning opportunities" for all teachers. This reinvention and continuation is supported in the locally produced Ramsey Report (NSW DET 2000) into revitalising teaching in critical times and choices. There is clearly an imperative for new professional development strategies and for teachers themselves to take more control of their personal professional development.

Principles of effective professional development (Bull et al 1994, ACOT 1995, US Dept Education 1996, Grant 1996, Loucks-Horsely & Hewson 1998, Stager 1998) define ongoing activity that builds on current practices, in a climate where teachers can take risks as part of a learning community. This "learning community" is a place or space where teachers support and learn from each other and take the time to reflect on the effectiveness of change. Joyce, Weil & Showers (Joyce et. al., 1992) reported that the most effective teacher professional development activities are those that combine theory, modelling, practice, feedback and coaching for application, particularly peer coaching. Novices in a community may collaborate with peers, work alongside experts, share, explore and learn as part of a network. Learners can be given opportunities through the community for 'reciprocal teaching' (Vygotsky, 1978). Teachers teaching teachers and teachers as learners are both concepts integral to this idea of reciprocal teaching and reform in professional development. For the contemporary social constructivist the "zone of proximal development" (ZPD) may be established through the community of novices and expert practitioners enabled in their social interactions by appropriate Internet-based activities, resources, opportunities and practices, beyond the physicality of being together in the same place at the same time. There is a body of practical work to indicate that the Internet does have more than just the potential to effectively facilitate teacher professional development. One example is an international on-line project EdNet@UMass (Reilly, 1999) that has shown evidence of the value of educational Internet communities. EdNet@UMass involves educators from the USA and 29 other countries in what is described as a forum for "promising practices" and exploring possibilities. The value lies in the networks both technological and social.

> *Educators are "islands of excellence" with no ferry service to connect them to each other or to groups of their peers.* (Reilly, 1999, p60)

Wilson & Ryder (1998), Tinker & Haavind's *Concord Consortium* (1997), Ravitz(1997).McMahon (1997) *The Mathematics Learning Forums*, Tenenbaum's (1998) *Media Center Project* and Cannings & Stager 's (1999),*NetAdventure* projects have all demonstrated the way a community of practice springs from web site activity. The thread is the need for a teacher centred community of practice to be the hub of the professional development experience.

It is recognised that the best work with on-line communities of practice is still to come. It is suggested that this will happen when the technology becomes more accessible and projects develop that embody the research findings (Ravitz 1997). With rapid and now widespread penetration of high speed connectivity in schools in Australia (and growing in homes) this research project is poised to address both the research understandings and to test the effectiveness in practice of on-line communities of practice.

Defining this on-line community

Community is a much-argued concept. Long before the "community" went on-line social scientists had disagreed about what a community was. Thousands of print and web pages are now devoted to trying to adequately define, refine and finesse what an on-line community is.

These definitions vary from:

In 1992 Howard Reingold (p1) said *...virtual communities are cultural aggregations that emerge when enough people bump into each other often enough in cyberspace.*

Palloff and Pratt (1999 p21)describe *People seeking commonality and shared interests formed groups and communities in order to pursue the interests that distinguished them from other groups.*

Amy Jo Kim (2000 p28) suggests that *A community is a group of people with shared interest, purpose, or goal, who get to know each other better over time.*

Wellman and Gulia (1997) define two types of community, *personal* and *group*. The group community most relevant to this research. *A group community is a social network of people who interact with each other regularly to provide sociability and support.*

In order to design and build an on-line community, we may be better served by identifying the essentials for on-line community rather than bogging down in the semantics. As quoted by Nancy White (1999) a federal judge said *Community is like pornography, I don't know how to define it, but I sure know it when I see it.*

It is evident from the literature that when the community as a concept is no longer confined to place and space, discussion has been sidetracked by arguing whether a listserv, a discussion space or a chat is a learning community. We would not argue whether the meeting hall or a telephone were a community. They are enablers to the activity of the community. In support Joseph Cothrel (1999 p52) writes *... "community" is about something more fundamental than location or mode of interaction, though we may not all agree what that 'something more is'.* It is therefore meaningful to aggregate the attributes or hallmarks of communities, as suggested by the theorists and practitioners across education, edutainment and enterprise and distil from those attributes some essential qualities for, or hallmarks of on-line community.

What follows is table of attributes proposed by a sample of theorists and researchers (Table 1) and the subsequent distillation of these attributes for the on-line community for *StageStruck*.

Figallo (1998)	• Member feels part of a social whole • Interwoven web of relationships between members • Ongoing exchange between members of commonly valued things • Relationships between members last through time
Etzioni (1988)	• Bonding, not one to one, but a group of people to each other • Shared set of values and culture – much more than interest
Mueller (1999)	• Frequent, multilateral and for a certain period durable communication contacts • Commonly shared norms, values and collective practices • Defined boundaries between inside and outside, and development of common identity
CLN On-line (1999)	• Promotes discussion, sharing, and active collaboration • Provides responsive resource for those seeking assistance and information • Is driven by the participants, as a real grassroots initiative
Hagel & Armstrong (1997)	• Distinctive focus • Integration of content and communications • Openness to competitive information/access • Commercial orientation • Valuing of member generated content
Preece (2000)	• Clear purpose for the community • Help to create social policies that guide not stifle • Support social interaction • Sociability built through trust, collaboration and appropriate styles of communication
Galston (1999)	• Limited membership • Shared norms • Affective ties • Sense of mutual obligation

Table 1 On-line community attributes

The attributes of community across all the appropriate sectors (school , tertiary and corporate) were examined and commonality began to emerge that could be synthesised into a few succinct hallmarks for community. These hallmarks are:

- Clear focus driven by the members (ownership)
- Employ appropriate technologies and styles of communication
- Members feel part of a social network where their expertise, leadership, content and contributions are valued
- Provides ongoing discussion, sharing of, and collaboration on, commonly valued things.

Designing for online community

So it was that this research embarked on the design of this online community to support the use of *StageStruck*. However it very quickly became evident that there were four distinct stages in working toward this true online community. Community might be the end product of this four step process, it was not the result of any one. Each of these stages is vital and does in turn inform the development and understanding of the next stage toward development of an online or web-based community for professional development:

1. Decide on the goals of the professional development and the needs of the teachers.
2. Design and build a web site architecture to support the goals and needs.
3. Establish a network of people as members in the interest group.
4. Build up the trust and ownership of the members as a community.

The StageStruck On-line Community Web Site http://www.stagestruck.uow.edu.au was developed after a year of research into teacher needs and on-line community-based web sites. The site was launch at the end of 2000 and the first participants joined the net work in February of 2001. The site is now between the third and fourth stages of the development process towards community. Members have registered and begun to contribute and share resources.

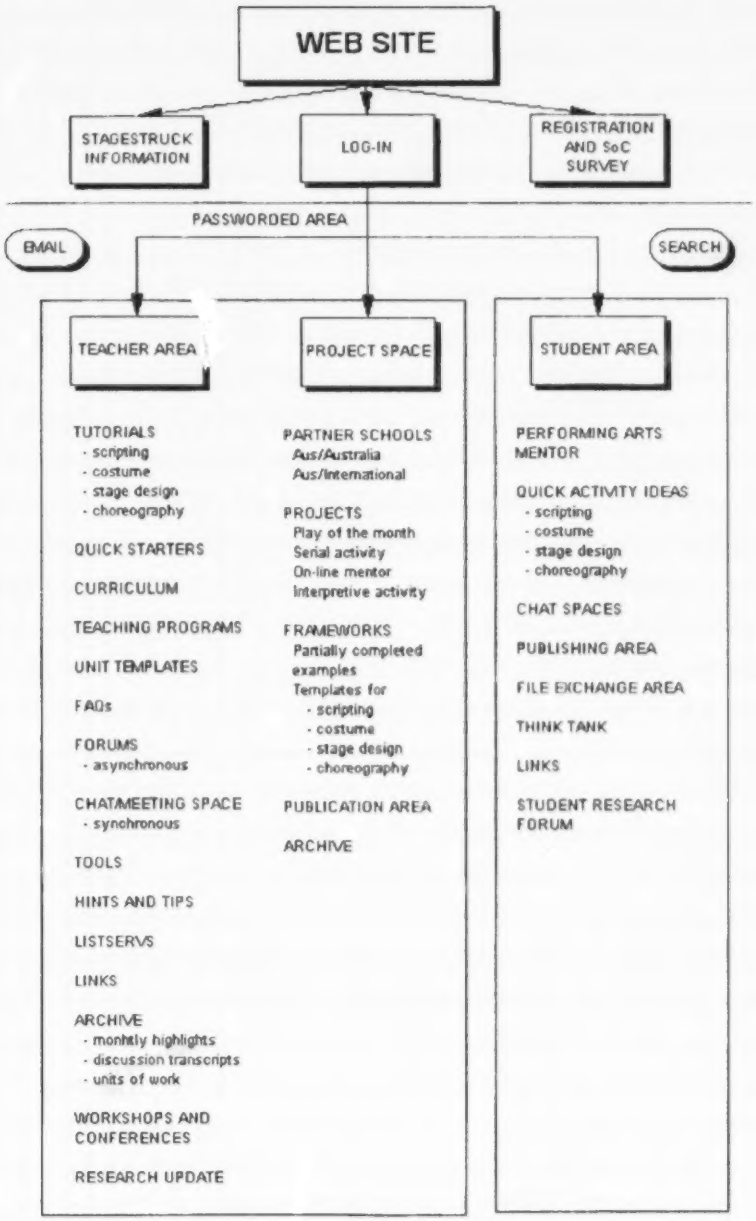

Diagram 1 The Initial StageStruck On-line Community Web Site Design

The StageStruck On-line Community will over the next two years test Tenenbaum's tenet. The data will be collected from the network or community (depending whether community is achieved) and its members in various ways. The Concerns Based Adoption Model, CBAM (Hall et al 1973) instruments will be used to gauge levels of implementation of *StageStruck* from chosen community members. As a key instrument the CBAM Innovation Configuration Map will be developed over 2001 in consultation with teachers in the community to describe practices that are the variations of implementation into the curriculum. This map will be used to define teacher

implementation and to feed back into the professional development process as a self assessment and planning tool for teachers. Quantitative measures will be used to review the web site activity in terms of access, paths taken, time spent, numbers of contributions and statistical data from systems logs. This data will track member activity as well as activity in specific areas and for all the Internet technologies employed by the community. Data collection for these cases will involve qualitative practices such as observation of teaching, interviews and focus groups, work samples, text analysis of web site contributions and documentation for units of work. The research program will run into 2002 with final data presentation to be as a series of cases of adoption of *Stagestruck* and data (qualitative and quantitative) will be analysed for trends in general levels of activity and individual involvement in the community over the two years.

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